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EXECUTIVE SUMMARY

Partner and Father Involvement in the Lives of Low-Income First Time Mothers and Their Children: Developmental Course and Impact on Maternal and Child Functioning

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INTRODUCTION

This study investigated the role that fathers and partners can play in improving the well-being of low-income women and children. Three longitudinal randomized trials of a program of prenatal and infancy home visitation serving first-time low-income mothers were conducted in Elmira, New York, Memphis, Tennessee, and Denver, Colorado. Mothers in these trials represented various ethnic and racial groups, predominantly African American, Mexican American, and Caucasian. Previous findings from this work demonstrate positive effects of the program on women's life course, caregiving, and child outcomes. The role of fathers and partners in regard to these program effects was the focus of the current study, in which we addressed the following questions:

(1) What is the natural history of father and partner involvement in the lives of low-income women and children?

(2) What is the impact of the program of prenatal and early childhood home visitation on partner and father involvement?

(3) What is the impact of partner and father involvement on women's life course development (e.g., welfare dependence, subsequent pregnancies, mental health)?

(4) What is the impact of father and partner involvement on children's health and development (e.g., intellectual development, child abuse and neglect, and adolescents' arrests and convictions)?

Focus on Partner-Fathers

Children's biological fathers were the primary focus for the current study. In Memphis and Denver, we narrowed this focus further to *partner-fathers*, biological fathers who were the mother's current husband or boyfriend. This group was targeted for several reasons: the number of partner-fathers was large enough to achieve adequate statistical power for most analyses of this group, data on their involvement was the most extensive, and we suspected that the program would be most likely to affect these men's involvement given their potential to help both their children and partners. We expected that the home-visitation program would affect partner-fathers' *structural* involvement (i.e., whether or not

women have partner-fathers, are living with partner-fathers, or are married to partner-fathers) as well as *functional* involvement (e.g., the amount of financial support provided and the extent to which the partner-father cares for the child). In Elmira, data were not readily available to determine whether women's partners were the father of the child. Therefore, most of our analyses of Elmira data examined partners, regardless of whether they were the child's biological father.

Conceptual Model

We adapted Bronfenbrenner's person-process-context model, derived from human ecology theory, as a framework for integrating our understanding of diverse influences on family development, and for guiding the work of home-visitors in the preventive intervention (Figure 1). It is reasonable to hypothesize that father and partner involvement contributes to family, economic, and social contexts that can shape women's life course and children's well-being.

Figure 1
The Person-Process-Context Model of Program Influences on the Development of Antisocial Behavior

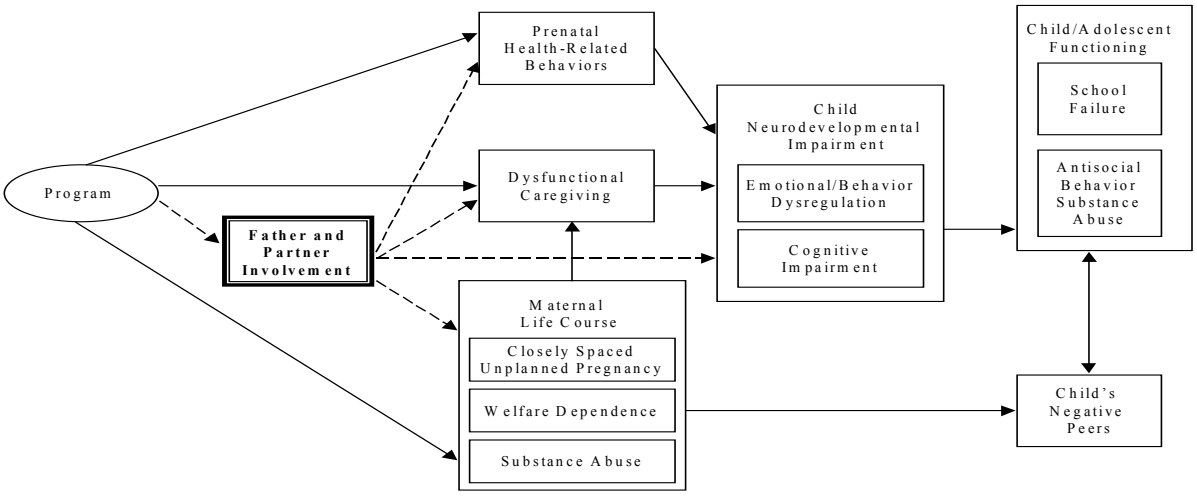

Figure 1 illustrates the basic conceptual model that underlies our study. According to this model, the positive effects of the program on *women's life course*, *caregiving*, and *prenatal health-related behaviors* are explained (mediated) in part by father and partner involvement. In turn, we expected that

the positive effects of the program on *children's outcomes* would be mediated by these improvements in women's lives and possibly by the direct effects of father and partner involvement.

The home-visiting program has three broad goals: 1) to improve maternal and fetal health during pregnancy by helping women improve their health-related behaviors; 2) to improve the child's health and development by helping parents provide more competent care of the child; and 3) to enhance women's own personal development by promoting the planning of future pregnancies and by helping them continue their education and find work. In an effort to achieve these goals, home-visitors in the trials made a significant attempt to involve the fathers of the child and mothers' current partners in the home visiting program.

Where it was deemed beneficial, safe, and consistent with the client's desires, the home visitors' focus on fathers and partners typically followed three routes: (1) direct encouragement of fathers' and partners' positive involvement in the lives of the women and their children, (2) counseling women about methods of improving primary supportive relationships (particularly with fathers, partners, and mothers' own mother), and (3) encouraging women's involvement with and choice of partners with whom they could have healthy relationships.

QUESTION 1:

WHAT IS THE NATURAL HISTORY OF FATHER AND PARTNER INVOLVEMENT IN THE LIVES OF LOW-INCOME WOMEN AND CHILDREN?

Examining the natural history of father involvement in the lives of low-income women and children allows for the identification of periods during which involvement is most likely to change. This information can be used to design programs that more effectively promote the acceleration of positive involvement and prevent disengagement.

Hypotheses

Our original hypotheses regarding the natural history of father involvement stated:

Hypothesis 1: that nonresident and never-married fathers would be less involved with their children than resident fathers and that this involvement would diminish over time. (Given data constraints, partner-fathers represented resident fathers, and nonpartner-fathers—biological fathers who were *not* the mother's current husband or boyfriend—represented nonresident and never-married fathers.)

Hypothesis 2: that fathers who have more resources available to them and a positive relationship with their child's mother will be more likely to involve themselves with mothers and children.

Hypothesis 3: that the level of involvement in one domain (e.g., financial contributions) will be positively related to the level of involvement in other domains (e.g., frequency of contact, caregiving support, legal paternity).

Analytic Design

We limited our natural history analyses to the control groups in Memphis and Denver because the home visitor did not affect father involvement in this group and there were sufficient data to examine patterns of involvement over time. Our samples consisted of women with *partner-fathers*—those who reported that the father of the child was their current partner at all time periods, 113 in Memphis and 93 in Denver, and women with *nonpartner-fathers*—those who reported that the father of the child was *not* their current partner at all time periods, 67 in Memphis and 35 in Denver.

We analyzed changes over time for both partner- and nonpartner-father involvement. We also examined family background characteristics that might predict father involvement. Family characteristics consisted of qualities of the mother and her household, the father, the child, and the parents' relationship (i.e., length of relationship in Memphis and amount of verbal conflict and physical violence in Denver). Father involvement outcomes consisted of measures of *financial support* (e.g., the amount of money provided for the mother and child), *instrumental support* (e.g., communication and contact, offering help, verbal conflict and physical violence), and *caregiving support* (e.g., the amount of child care provided). In addition, we analyzed differences in the level of father involvement between partner-fathers and nonpartner-fathers.

Results and Conclusions

Consistent with our hypotheses, partner-fathers were more involved with their families than were nonpartner-fathers and higher functioning families typically received more financial, instrumental, and caregiving support from partner-fathers. Contrary to our expectations, levels of involvement among both partner- and nonpartner-fathers were more likely to remain stable through the child's second year of life than to decline. There were notable exceptions; in Memphis, there were substantial declines over time in partner-father financial support. At the same time, there were increases in partner-father structural involvement, including both cohabitation and marriage. If parents maintained their relationships over time, they were more likely to eventually cohabit and marry.

As expected, father involvement in one domain was associated with involvement in other domains. Greater functional involvement flowed from greater structural involvement (e.g., fathers being partners). Fathers who were partnered with their child's mother were more likely to provide her and the child with greater financial, instrumental, and caregiving support. In addition, in Memphis partner-fathers who had established paternity by 6 months postpartum provided more caregiving support than did partner-fathers who had not established paternity.

Among families with partner-fathers, those who start out during pregnancy with more resources receive more partner-father support over time. Interestingly, among families with partner-fathers, predictors of fathers' involvement consisted of characteristics of the parents, their relationship, and their household, whereas, among families with nonpartner-fathers, levels of involvement were predicted primarily by child characteristics. It is not clear, on its surface, why different sets of predictors would operate with the involvement of partner-fathers and nonpartner-fathers.

Where comparisons across the Memphis and Denver trials are possible, the levels of both partner- and nonpartner-father involvement were, for the most part, remarkably similar. A notable difference between the two studies was in regard to partner-father's structural involvement. Rates of partnering, cohabiting, and marriage with the child's father were notably higher in Denver than Memphis, starting

during pregnancy and continuing through the child's second year of life. For example, whereas in Memphis 5% of women with partner-fathers were married at intake and 26% were married at 24 months postpartum, in Denver, 32% of women with partner-fathers were married at intake and 61% were married at 21 months postpartum.

Partner-father financial support in Memphis was approximately half that of Denver, although these estimates do not take inflation into account. In part, these differences may be attributable to the dramatic differences in local economies in Memphis in the late 1980's and early 90's and in Denver in the mid-to-late 1990's. Levels of partner-father instrumental support (e.g., mother's comfort confiding in him about private matters, his interest in the child) tended to be only slightly lower in Memphis than Denver, whereas levels of caregiving support tended to be lower in Denver than Memphis, particularly at 12 and 21/24 months postpartum; these particular differences have not been tested for statistical significance. Nonpartner-fathers' financial and caregiving support fluctuated around the same levels in Memphis and Denver.

QUESTION 2:

WHAT IS THE IMPACT OF THE PROGRAM OF PRENATAL AND EARLY CHILDHOOD HOME VISITATION ON PARTNER AND FATHER INVOLVEMENT?

There is extensive evidence to indicate that government programs and policies need to be designed to increase fathers' involvement in the lives of their children—as long as fathers can play a constructive role in their lives. Programs centered around therapeutic relationships formed with nurse home visitors may serve to engage children's biological fathers as well as partners who could be father figures to the child, encouraging their commitment to the child and mother and enhancing the quality of their involvement. Home visitors may also help women develop their own capacities to make healthy choices when it comes to future partners so that they are more likely to choose men who will contribute to their family's well-being.

Hypotheses

We specified the following hypothesis regarding program effects on father and partner involvement: Fathers and partners present in the lives of home-visited women will be more positively involved in the lives of these women and their children than will their counterparts in the comparison group. Domains of involvement will include *structural* involvement, such as higher rates of cohabitation and marriage and establishment of legal paternity, and *functional* involvement, including financial assistance, instrumental support (e.g., confiding in times of crisis, offering help), and caregiving support.

Analytic Design

For the Elmira trial, we analyzed program effects on father and partner structural and functional involvement and partner characteristics (e.g., educational achievement and employment patterns) as measured when the children were 15 years old. For the Memphis and Denver trials, our analyses focused on partner-father structural and functional involvement. Because fathers' partner status often changed across assessments, our samples of partner-fathers differed across assessments. In Memphis, we had data through the child's fifth year of life, and, in Denver, we had data through the child's second year of life.

In both Memphis and Denver, we conducted additional analyses to aid in the interpretation of differences observed between the visited and control groups in father functional involvement. In Memphis, we examined the possibility that *selection*, rather than the program itself, accounted for apparent effects of the program on partner-father functional involvement. This was particularly important because there were program effects on partner-fathers' structural involvement (e.g., cohabitation). If visited women were more likely than control group women to stay with high-functioning fathers, we might conclude that selection, and not the program, may have operated to account for observed differences in partner-father functional involvement. If, on the other hand, nurse-visited women were more likely than controls to stay partnered with fathers who were low or moderate functioning, and we observed no or few effects on partner-father functional involvement, the absence of effects may be due, at least in part, to the nurse-visited women being partnered with these lower-functioning men. If there were no differences between the groups of fathers with whom nurse-visited and control group women were

partnered, it would be unlikely that selection was operating on father functional involvement. Selection effects have not yet been examined in Elmira, and they were not examined in Denver because fathers' structural involvement did not differ systematically across treatment groups.

In Denver, we examined whether family background predictors of father involvement had different relationships with father involvement outcomes for the visited and control groups. These analyses help to determine whether apparent program main effects were really concentrated in subgroups defined by particular family background characteristics.

Results and Conclusions

There was support for the hypothesis that fathers and partners of nurse-visited families would be more positively involved than would their control group counterparts. Across trials, the most consistent findings were that nurse-visited women reported greater partner and father *structural* involvement than did control group women. Findings for partner and father *functional* involvement were more mixed. This is explained at least in part by the nurse-visited women's retention of relationships with men who were lower functioning when the women registered in the study during pregnancy.

Structural Involvement

Elmira. In Elmira, women who received nurse home visitation established a healthier life-course trajectory with their partners than they would have without the program. Fifteen years after delivery of their first child, nurse-visited women who were unmarried and low-income at registration during pregnancy had higher rates of marriage (57% vs. 38%, $p = .05$) and spent more time in partnered relationships (146 vs. 130 months, $p < .10$) than did their counterparts in the control group. Moreover, the partners they chose were more educated (12.3 vs. 11.8 years of school, $p < .10$) and were employed a larger proportion of time during the child's 15 years of life (0.66 vs. 0.50, $p = .01$). This is consistent with a central focus of the intervention, which was to help women's partners improve their education and find work and to help women make good choices about the men they involved in their lives.

Memphis. Nurse-visited women with fewer psychological (or coping) resources in Memphis were more likely to stay *partnered* with (at 12 months: 51 vs. 42%, $\underline{p} = .08$; at 24 months: 40 vs. 27%, $\underline{p} = .02$), to *cohabit* with (at 12 months: 19 vs. 13%, $\underline{p} = .08$; at 24 months: 21 vs. 12%, $\underline{p} = .03$; at 5 years: 17 vs. 10%, $\underline{p} = .06$), and to be *married* to (at 12 months: 10% vs. 5%, $\underline{p} = .06$) the child's biological father than were their control group counterparts. Detailed examination of these findings revealed that nurse-visited women with fewer psychological resources were more likely than their control group counterparts to maintain relationships with fathers who were functioning marginally at intake (i.e., fathers who provided lower levels of social support and were working only part time or were unemployed).

Denver. There were no strong patterns of program effects on partner-father structural involvement in Denver, perhaps in part because the baseline rates of marriage and cohabitation were substantially higher in Denver than in Memphis (e.g., intake rates of living with partner-fathers were about 7% in Memphis and about 33% in Denver). Nevertheless, we did find that nurse-visited women who were not partnered with their child's biological father at intake were more likely than their control group counterparts to be partnered with the father at 36 weeks of pregnancy, to live with the partner-father at 6 months postpartum, and to be married to him at 12 months postpartum. This pattern resembles a typical progression in intimate relationships and suggests that the nurses may have helped women who were not partnered with the father of the child at intake to re-partner and develop more committed relationships with him earlier than they would have without the intervention.

Functional Involvement

Elmira. There were no interpretable patterns of significant program effects on partner or father functional involvement measured at the 15th year after delivery of the first child. The lack of meaningful differences is consistent with the fact that some of these men were unlikely to have had any direct contact with the program. Moreover, the program may have worked in ways similar to Memphis, where nurse-visited women were more likely to maintain relationships with lower-functioning men.

Memphis. There was some evidence for greater *partner-father* functional involvement in the families of nurse-visited women while the program was in operation (from pregnancy through age two) but this pattern did not persist at five years. Analyses of sample selection indicated that these findings were likely to be underestimates of program effects because nurse-visited women were more likely than control group women to be partnered with fathers who were lower functioning at intake.

Among *nonpartner-fathers*' the program had little clear effect on their functional involvement while the program was in operation. Five-year results, however, revealed greater functional involvement on the part of biological fathers who were not in a partnered relationship with the mother. This effect was especially strong in families in which the mothers had low psychological resources at intake during pregnancy. These findings may be a reflection of the fact that nonpartner-fathers in the nurse-visited condition had higher resources at intake than their counterparts in the control group.

It also is possible, on the other hand, that while the program was in operation the nurses were able to help women, particularly those with fewer resources, to maintain partnered relationships with their children's fathers longer, to engage in more positive communication with partner-fathers, and to facilitate partner-fathers' involvement with the child. If this happens early in the child's life, it may be more likely to result in a longer-lasting father-child relationship, irrespective of whether or not the father remains partnered with the mother. After the program ends, although there may not be enough external support for most of these young couples to maintain their intimate relationship, a positive foundation laid in the earlier years—in regard to both the parents' ability to communicate well with one another and the fathers' connection with his child—could result in positive program effects for nonpartner-fathers' functional involvement at five years.

That program effects for partner-fathers' functional involvement did not persist at 5 years is also consistent with this scenario. Couples who maintain their relationship for over 5 years could be high-functioning enough that nurses do not have a measurable impact. It also is possible that the lack of results at 5 years reflects selection, as discussed above. Because nurse-visited women were more likely to retain

relationships with lower functioning fathers than were control group women, program effects on their functional involvement may not be evident.

Denver. There were no strong patterns of program effects on father functional involvement in the Denver trial. Because greater functional involvement is likely to stem from increased structural involvement, the lack of program effects on fathers' functional involvement may be explained, in part, by higher baseline rates of father structural involvement in Denver, leaving less room for the program to affect improvement. Where patterns of program effects were found, we are hesitant to make firm conclusions because of concerns about the robustness of results. We briefly present two of the more noticeable patterns of results.

First, program effects on father functional involvement, regardless of partner status, were different across ethnic groups. This supports the need for more attention to the role that ethnicity plays in how the home visitation program affects father functional involvement. Second, we found program effects on nonpartner-father involvement among women not living with their own mothers at intake. This suggests that, consistent with other literature, grandmothers may play a gatekeeping role regarding fathers' involvement with their children, particularly when the father is no longer the woman's partner.

QUESTION 3:

WHAT IS THE IMPACT OF PARTNER AND FATHER INVOLVEMENT ON WOMEN'S LIFE COURSE?

Father and partner involvement has several implications for women's own life course (e.g., welfare dependence, subsequent pregnancies, mental health). Fathers and partners who are steadily employed and committed to their families are more likely to supplement rather than drain the financial resources of the family. Fathers and partners can also affect the timing and number of subsequent pregnancies. Those who are supportive of contraceptive use, for example, will make the planning of future children and the avoidance of unintended pregnancies easier. Finally, if women have healthy, emotionally supportive relationships with their partners, they will be more likely to have a positive

outlook on their lives. Partners' financial support may ease the stress and anxiety women experience due to economic insecurity. Caregiving support from the father may provide women with relief from the demands of child care and make other aspects of her life easier to manage.

Hypotheses

We specified the following hypotheses regarding the relationships between father and partner involvement and women's life course development.

Hypothesis 1: Financial support provided by partners and fathers will reduce women's use of AFDC. In addition to this original hypothesis, we also examined the possible role played by financial support in mediating program effects on women's welfare use.

Hypothesis 2: Partner and father financial, emotional, and child care support will promote women's mental health and quality of caregiving.

Hypothesis 3: Partner-father support of contraceptive use will be associated with fewer subsequent pregnancies.

Analytic Design

Analyses were conducted for two purposes. First, where we had found program effects on partner or father involvement and maternal life course outcomes, we were interested in conducting preliminary analyses to determine *whether partner or father involvement accounted for (mediated) effects of the program* on maternal life course. For example, if the size of the program effect on women's use of welfare was reduced when we included partner financial support in the statistical model, then we would know that partner financial support at least partially accounted for the program's effects on women's use of welfare.

Second, where we did not have program effects on either partner or father involvement or on maternal life course outcomes, we examined the *extent to which partner or father involvement predicted maternal life course*. We cannot make causal conclusions based on findings from these analyses. Nevertheless, we controlled statistically for a wide range of potentially confounding influences and the

measures of partner and father involvement were assessed prior to those of women's life course outcomes in most cases. This increases the likelihood that father involvement variables played an influential role in affecting maternal life-course outcomes when they were statistically significant predictors.

We examined this question in multiple regression models. We began with *standard models* that were consistent with those employed in our previous work within each trial. Building on the standard models, we then added variables that represented salient aspects of *maternal functioning* (such as her own employment history) likely to be related to the outcome. Next we added a measure of partner or father *structural involvement*—marital status in Elmira and Denver and cohabitation status in Memphis (due to low rates of marriage in Memphis—and, finally, measures of partner or father *functional involvement* (e.g., financial support, support of contraceptive use).

Results and Conclusions

Partner and father involvement are predictive of a variety of important maternal life course outcomes and this involvement helps explain the effects of the program of nurse home visitation on maternal life course. Analyses conducted to date indicate that while partner and father *structural* involvement (i.e., marital status in Elmira and Denver; cohabitation status in Memphis) contribute to women's life course, partner and father *functional* involvement plays a much more salient role.

Mediation of Program Effects on Welfare Use by Partner and Father Involvement

We have reported previously that the program of nurse home visitation reduced welfare use in Elmira and Memphis. Even when controlling for women's own employment, these program effects were in part attributable to partner and father *functional* involvement, in particular partner employment in Elmira and father financial support in Memphis. (These were two functional domains on which the program produced effects in Elmira and Memphis and which were likely to be related to women's use of welfare.) To a lesser extent, the differences are attributable to program effects on partner and father *structural* involvement (e.g., marriage and cohabitation). The mediating effects of structural involvement were most pronounced in Memphis, where partner-father cohabitation status at child age five, in addition

to father financial contributions, accounted for program effects on women's use of AFDC and Food Stamps. These findings reinforce the validity of the theory that the effectiveness of the program depends upon the engagement of significant others in the lives of low-income vulnerable mothers, especially partners and fathers.

Predicting Women's Life Course Development from Partner and Father Involvement

Welfare use. We found evidence in all three trials to support our hypothesis that partner and father financial support predicted reductions in women's use of welfare, even when controlling for women's own employment. In addition, we found evidence in Memphis that partner-father structural involvement—living with a partner-father when the child was 5 years of age—predicted less welfare use. It is important to note that the percentage of the variance in women's welfare use explained by partner and father involvement was not large, especially in Memphis and Denver. Therefore, additional work should be done to examine other factors associated with women's use of welfare that the program has affected. Measures of maternal employment, such as those included in our analyses, are examples of such factors.

Our findings support policies that promote the enforcement of child support, particularly when enforcement efforts encourage more stable partner and father employment and increased amounts of money being provided to the mother and child. In addition, the Memphis results suggest that policies and programs that strengthen the relationships of young parents and encourage cohabitation and marriage deserve increased examination. It is critical that we be mindful that while such programs may have considerable benefits such as those discussed here, serious negative side effects, such as the threat of domestic violence, make it essential that they be thoughtfully developed and implemented.

Mental health and caregiving. We found evidence in all three trials to support our hypothesis that positive involvement on the part of partners and fathers would promote women's mental health and quality of caregiving. Although there were some indications that partner and father *structural* involvement was predictive of these outcomes, it is important to emphasize that partner and father

functional involvement was more consistently predictive of women's mental health and caregiving. This has important policy implications for initiatives designed to promote partner and father structural involvement. It is unlikely that such initiatives will reach their maximum level of effectiveness if their only goal is to increase rates of marriage and cohabitation. Instead, they must also aim to improve the quality of parents' relationships.

It is important to note that, across all three trials, women's better mental health was predicted by less conflict with her partner. This pattern of findings reemphasizes the need for programs serving young, low-income couples, especially those programs promoting marriage, to be screening for domestic violence and providing interventions for couples who are at risk of or who are currently experiencing domestic violence. Programs should protect women's safety as a first priority but should also seek to help couples enhance their relationship skills, where appropriate, particularly in regard to their ability to deal with conflict in ways that do not escalate into verbal abuse and physical violence.

The types of partner and father functional involvement that predicted both women's mental health and caregiving outcomes were social support and caregiving support. These associations were evident across trials. Financial support was the type of functional involvement that was least predictive of women's mental health and caregiving outcomes; we only found evidence for its relationship to caregiving outcomes in Denver.

These predictive relationships do not provide evidence of *causal* relationships between partner and father involvement and women's mental health and caregiving. It is plausible, for example, that women who have better mental health and caregiving skills elicit more support from their significant others and experience less conflict with them. Nevertheless, we were careful to control for confounding variables and the longitudinal nature of the variables included in our analyses adds strength to the conclusion that partner and father involvement predicts (and probably contributes to) women's better mental health and caregiving.

Subsequent pregnancies and births. We found limited evidence in Denver to support our hypothesis that partner-father support of contraceptive use would be associated with fewer subsequent pregnancies. Although one may find it surprising that partner-father support of contraceptive use is not strongly related to the number of women's subsequent pregnancies and births, our measure of partner-father support may not have been sensitive enough to assess what that support meant in regard to actual behavior.

It is also important to highlight that in Denver being married *increased* the likelihood that women had a subsequent birth by the time the first child was two years old. This result suggests that initiatives promoting marriage should consider that additional children will be born into financially fragile families and could result in additional strain being placed on these relationships.

QUESTION 4:

WHAT IS THE IMPACT OF FATHER AND PARTNER INVOLVEMENT ON CHILDREN'S HEALTH AND DEVELOPMENT?

Father and partner involvement may influence children's heath and development either indirectly, through their impact on mothers' life course and quality of caregiving, or directly. Much of the research done on father involvement has been concerned with the impact of child support on children's well-being; amount of payments has been associated with better child behavior and academic achievement. The other major focus of research in this area is the impact of father contact on children, but contact alone is probably not the only thing that matters. Fathers and partners who successfully promote their children's well-being probably tailor their involvement to their children's developmental needs and are good role models for them.

Hypotheses

We originally specified the following hypotheses regarding the relationships between father and partner involvement and children's health and development.

Hypothesis 1: Financial support from fathers and partners will be positively related to children's intellectual development.

Hypothesis 2: Father and partner involvement (financial, emotional, and child care) will reduce the likelihood that children are victims of abuse and neglect.

Hypothesis 3: To the extent that fathers and partners are positively involved with children, are good role models, and have positive relationships with mothers, adolescents' will be less likely to engage in antisocial behavior. We revised this third hypothesis to focus on the role of women's marital status (i.e., their structural involvement) on children's antisocial behavior, paying particular attention to its possible mediation of program effects.

Analytic Design

Analyses were conducted for two purposes. First, where we had found program effects on measures of partner or father involvement and salient child health and development outcomes, we conducted preliminary analyses to examine *whether partner or father involvement accounted for (mediated) program effects* on child abuse and neglect and children's arrests, convictions, and use of alcohol. Second, where we did not have program effects on either partner and father involvement or on child health and development outcomes, we examined the *extent to which partner or father involvement predicted child health and development*.

Analyses were conducted with general linear models. We began these analyses with *standard models*, models used previously in our published reports of program effects—with the inclusion of the same classification factors and covariates. We then added variables that represented salient aspects of *maternal functioning* (e.g., education) and *child characteristics* (e.g., sex), and measures of *partner or father functioning* (e.g., education) likely to be related to particular outcomes. We then included a measure of partner or father *structural involvement*, marital status in Elmira and Denver and cohabitation status in Memphis (due to low rates of marriage in Memphis). In some cases, measures of partner or father *functional involvement* were also added to the model (e.g., financial support).

Results and Conclusions

We found no indications that partner-father involvement was predictive of children's intellectual development or that partner involvement was a direct mediator of program effects on child maltreatment, although it may have indirect effects. We did find, however, that partner structural involvement mediated program effects on child arrests and convictions.

Mediation of Program Effects on Child Health and Development by Partner Involvement

Child maltreatment. Although our preliminary analyses of Elmira data did not indicate that partner involvement accounted for program effects on child maltreatment, in other analyses conducted in collaboration with our colleagues at Cornell University, we found that women's use of AFDC and their number of subsequent children both helped explain program effects on child maltreatment. Because analyses from the current study indicate that partner involvement partially accounts for program effects on AFDC use, we plan to study whether partner involvement helps explain the effect of the program on child maltreatment through its impact on use of AFDC.

Children's arrests, convictions, and use of alcohol. Findings provided support for our hypothesis that partner structural involvement helps account for program effects on children's arrests and convictions. The treatment difference in the low-income, unmarried subgroup was reduced to nonsignificance when mothers' marital status at 15 years was included in the model. Given the lower rates of arrests and convictions among children of married mothers as compared to children of single mothers, program effects that increased the rates of marriage contributed to lower rates of arrests and convictions among nurse-visited families as compared to their control group counterparts.

In addition, we found evidence that the program *moderates* the effect of mothers being single at 15 years on children's antisocial behavior. Children of control group mothers who were unmarried at 15 years had significantly more arrests and convictions than did children of control group mothers who were married. In nurse-visited families, there were no differences in rates of arrests and convictions for the children of unmarried versus married nurse-visited mothers, with both groups having relatively low rates.

Predicting Child Health and Development from Partner-Father Involvement

Child cognitive development. No relationship was found between partner-father involvement and children's cognitive development in either Memphis or Denver (we did not have data to analyze such relationships in Elmira). Even fathers' educational achievement, intended to represent his heritable contribution to children's cognitive development, was unrelated to children's outcomes. It may be that in these families, men's involvement with their children is either quantitatively or qualitatively insufficient to affect children's cognitive development, at least during the first two years of the child's life.

Domestic Violence as a Moderator of Program Effects on Child Maltreatment

Findings from Elmira indicate that program effects on child maltreatment were mitigated in families where there were high levels of domestic violence. The finding suggests that home visiting programs need to explicitly seek to reduce domestic violence in order to extend the range of families for which nurse home visitation prevents child abuse and neglect.